



REMARKS/ARGUMENTS

Claims 1-25 have been pending in the application and stand rejected.

Objections to Drawings

The Examiner has objected to Figures 1A and 1B, noting that they should include a legend, such as -- Prior Art --. In response, Applicant is submitting herewith a replacement page that includes corrected Figures 1A and 1B.

Rejection of Claims 1, 8, and 15 under 35 U.S.C. §112, First Paragraph

Claims 1, 8, and 15 stand rejected under 35 U.S.C. §112, First Paragraph as failing to comply with the enablement requirement. Specifically, the Examiner has indicated that the phrase "a metallic core electrically connected to said transformer coil body" is not enabled by the specification. The Examiner has suggested that the phrase should read "a metallic core being magnetically coupled to said transformer coil body." Applicant has amended claims 1, 8, and 15 herein to incorporate the Examiner's suggestion. Applicant submits that the claims are now clear and that the rejection should be withdrawn.

Rejection of Claims 22, 24, and 25 under 35 U.S.C. §103(a) over Kruger and Horsma

Claims 22, 24, and 25 stand rejected under 35 U.S.C. §103(a) as being obvious in view of the Kruger and Horsma references. The Examiner considers Kruger to disclose each of the elements of the claims, including electrically connecting a positive temperature coefficient resistivity (PTC) element (element 21 in Figure 1) in series with a primary winding of the transformer (elements 14 and 16 in Figure 1). He admits that Kruger does not disclose a polymer PTC element. He finds, however, that the Horsma patent discloses the use of a polymer PTC element to provide thermal protection of the electrical equipment. He concludes that it would have been obvious to one of skill in the art at the time the

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invention was made to have modified the PTC element in Kruger's arrangement according to the teachings of Horsma in order to provide a polymer PTC.

Applicant traverses the rejection as it might apply to the claims as amended herein. As amended, independent claim 22 recites a method wherein the transformer coil body includes a primary winding and a secondary winding. Further, the claim recites that the PTC element is connected to the primary winding, but not to the secondary winding. This amendment is supported by the specification at least at page 9, lines 4-6, Figures 2A, 2B, 3, and 4. The specification also points out that it is preferred that the PTC element be connected to the primary winding since the primary winding draws much less current than the secondary winding. Specification, page 11, lines 4-8.

The prior art does not disclose or suggest the methods recited in claims 22, 24, and 25. In the Kruger reference, the PTC sensor/protector 21, or a plate 32 having the sensor/protector 21 thereon, is placed into contact with both the primary and secondary windings 14, 16 of the transformer. See Kruger, col. 2, lines 51-54; Figure 4. Because of this manner of connection, Kruger fails to disclose or to suggest at least the element of the PTC element being connected to the primary winding, but not to the secondary winding, as claimed. Applicant points out that Horsma does not disclose or suggest this element either, and no combination of the two references would reveal it. Applicant respectfully requests that the Examiner remove the rejection.

Rejection of Claim 23 under 35 U.S.C. §103(a) over Kruger, Horsma, and Harmsen

Claim 23 stands rejected for obviousness over a combination of Kruger and Horsma, as applied to claim 22 and further in view of the Harmsen patent. The Examiner notes that neither Kruger nor Horsma disclose a short circuit condition as an activation event. He contends, however, that Harmsen discloses this. He concludes that it would have been

obvious to one of skill in the art at the time the invention was made to use the solution provided by the Kruger/Horsma references for protection of the short circuit condition according to Harmsma.

Applicant incorporates herein the arguments made above with respect to the inability of Kruger and Horsma to render independent claim 22 unpatentable. Claim 23 should be allowable at least as depending from an allowable base claim.

Rejection of Claims 1 and 3-7 under 35 U.S.C. §103(a) over Kruger and Horsma

Claims 1 and 3-7 stand rejected for obviousness over a combination of the Kruger and Horsma references. The Examiner contends that Kruger discloses the subject matter of these claims except for the PTC element being made of polymer. He finds Horsma to disclose a polymer PTC element and concludes that it would have been obvious to one of skill in the art to have used a polymer PTC element in Kruger's device.

Applicant points out that it has amended the claims herein and submits that the rejection is improper as applied to the amended claims 1, 3-4 and 6-7. Claim 1, as amended, recites a power transformer wherein the transformer coil body has a primary and a secondary winding. Additionally, the claim recites a polymer positive temperature resistivity element electrically connected to one of either the primary or secondary windings, but not to the other. The amendment is supported by the specification at least at page 4, lines 4-5 ("a polymer positive temperature coefficient resistivity element electrically coupled to the primary or secondary winding . . .") as well as page 4, lines 7-8, general discussion on pages 8-9 and Figures 2A, 2B, 3 and 4. At least this element is not disclosed or suggested by the cited references. As discussed previously, the Kruger reference is the only reference cited that describes interconnecting a PTC element within a power

transformer, and Kruger teaches connecting the PTC element to both the primary and secondary coils.

Rejection of Claim 2 under 35 U.S.C. §103(a) over Kruger, Horsma and Harmsen

Claim 2 stands rejected for obviousness in view of the combination of Kruger and Horsma, as applied to claim 1 and further in view of Harmsen (disclosing a short circuit as an activation event). Applicant submits that claim 2 should be allowable at least as depending from an allowable claim 1.

Rejection of Claims 8 and 10-14 under 35 U.S.C. §103(a) over Kruger, Horsma and Innes

Claims 8 and 10-14 stand rejected for obviousness over a combination of Kruger and Horsma and further in view of the Innes reference. The Examiner considers Horsma and Kruger to disclose the subject matter of these claims except for the recited light emitting diode (LED). However, he considers Innes to disclose an LED electrically coupled to a PTC element to signal activation of the PTC element. He concludes that it would have been obvious to one of skill in the art to have modified the Kruger/Horsma device to include an LED, as taught by Innes.


Applicant responds by pointing out that claim 8 has been amended herein to recite a power transformer wherein the transformer coil body has a primary and a secondary winding. Additionally, the claim recites a polymer positive temperature resistivity element electrically connected to one of either the primary or secondary windings, but not to the other. As noted, at least this element is not present in or suggested by the combination of references that the Examiner is relying upon. Applicant respectfully requests that the Examiner withdraw the rejection.

CONCLUSION

The Commissioner is hereby authorized to charge any fees deemed necessary for this response to **Deposit Account No. 13-0010 (SQD-1018-US)**, maintained by Madan, Mossman & Sriram. The Examiner is invited to discuss this matter with Applicant's attorneys should any questions arise.

Respectfully submitted,

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